

TAXONOMIC STUDY ON THE LEAFHOPPER GENUS *FISTULATUS* ZHANG, WITH DESCRIPTION OF A NEW SPECIES FROM CHINA (HEMIPTERA, SELENOCEPHALINAE, PARABOLOPONINI)

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Abstract A new species of the paraboloponine leafhopper genus *Fistulatus*, *F. rectilineus* Shang et Zhang, sp. nov., is described from China. Figures are provided and a key to separate all species in this genus is given. The type specimens of the new species are kept in China Agricultural University (CAU) and Nankai University (NKU).

Key words Hemiptera, Cicadellidae, Selenocephalinae, Paraboloponini, *Fistulatus*, new species, China.

The paraboloponine leafhopper genus *Fistulatus* was established by Zhang in 1997, for its type species *F. sinensis* Zhang. Two additional Chinese species were described by Cen & Cai (2002) and two species from Sabah (E. Malaysia) by Shang & Zhang (2003). In the present paper we describe a new species, *F. rectilineus* sp. nov., from China, bringing the total number of species in the genus to 6. Additional material of two previously described species is also recorded.

The type specimens of the new species are kept in China Agricultural University (CAU) and Nankai University (NKU), specimens of the other two known species are deposited in the Natural History Museum London (BMNH) and Northwest A & F University (NWAUFU).

Key to species (males)

1. Aedeagus with two pairs of processes *F. bidentatus*
Not as above 2
2. Apical process of style with a lateral process *F. sinensis*
Apical process of style without a lateral process 3
3. Pygofer with a ventrally directed posterior process on each side ... 4
Pygofer with a medially directed posterior process on each side 5
4. Apical process of style long and tapered apically, dentiform on inner margin *F. athena*
Apical process of style extended beak like apically
..... *F. monkoboensis*
5. Aedeagus straight in lateral view
..... *F. rectilineus* Shang et Zhang, sp. nov.
Aedeagus curved dorsad in lateral view *F. luteolus*

1 *Fistulatus sinensis* Zhang, 1997

Fistulatus sinensis Zhang, 1997: 237-238, Fig. 2. A.H.

Distribution. China (Shaanxi, Henan, Gansu).

2 *Fistulatus bidentatus* Cen & Cai, 2002

Fistulatus bidentatus Cen & Cai, 2002: 117-119, Figs 9-17.

Distribution. China (Zhejiang).

3 *Fistulatus luteolus* Cen & Cai, 2002

Fistulatus luteolus Cen & Cai, 2002: 119-120, Figs 18-25.

Specimen examined. 1 ♂ (NWAUFU), Hongping, Shennongjia, Hubei Province, 27 July 2001, light trap, coll. HUANG Min, ZHANG Gu Lin.

Distribution. China (Zhejiang, Henan, Hubei).

4 *Fistulatus monkoboensis* Shang & Zhang, 2003

Fistulatus monkoboensis Shang & Zhang, 2003: 21-22, Fig. 1. A.G.

Specimen examined. 1 ♂ (BMNH), East Malaysia, Crocker Range (1400 m), 16 Miles NW of Keningar Sabah, 6 Sep. 1982, Shinji Nagai leg.

Distribution. Sabah (E. Malaysia)

5 *Fistulatus athena* Shang & Zhang, 2003

Fistulatus athena Shang et Zhang, 2003: 22-23, Fig. 2. A.G.

Distribution. Sabah (E. Malaysia).

6 *Fistulatus rectilineus* Shang et Zhang, sp. nov. (Figs. 1-7)

Length (incl. tegmen): ♂ 7.2 mm.

Moderately large. Light yellowish green to light yellow; spot above each ocellus, pedicel of antennae and leg setal bases, dark brown. Head nearly as wide as pronotum, fore margin transversely striate; vertex with midlength approximately 1.5 times length next to

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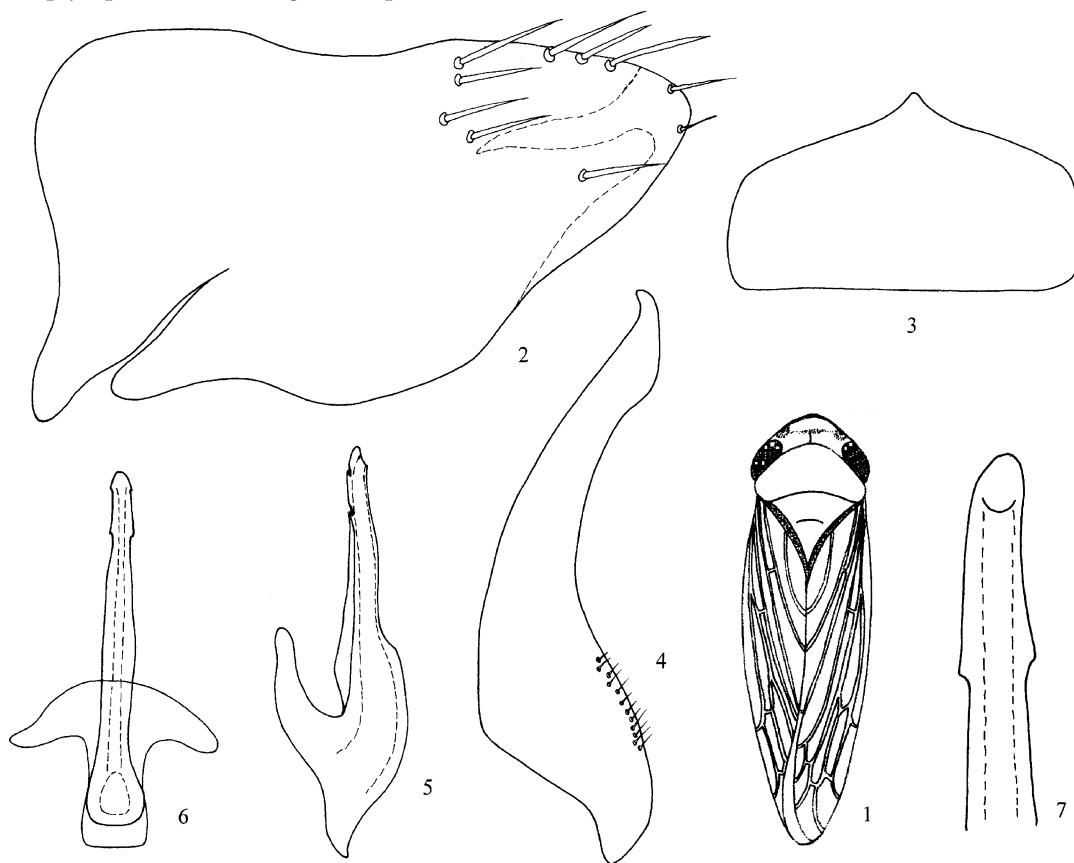
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eyes, shallowly transversely sulcate subapically; ocelli on fore margin, nearly twice their own diameter from corresponding eye. Face with antennae long, longer than half body length, situated above midlength of eye in facial view, antennal pits shallow, antennal ledge weak, laterofrontal suture extended to corresponding ocellus. Pronotum transversely striate. Forewing venation distinct, with 4 apical cells and 3 anteapical cells, appendix narrow. Hind femur with apical setal formula $2+2+1$.

Male genitalia with pygofer side oblong, tapered apically and terminating in a medially directed spine-like process. Valve pentagonal with posterior margin medially sharply produced. Subgenital plate with

rather short broad basal region with fine setae laterally and long narrow distal region tapering to apex. Aedeagal shaft elongate, cylindrical, relatively straight and tapered to apex, dorsal margin on each side with a basal flange and subapically with a narrow triangular-shaped flange, ventral margin basally slightly produced and laterally compressed flange-like medially, gonopore apical on posterior surface; basal apodeme moderately long.

Holotype ♂(CAU), Mt. Emei (29.6°N, 103.4°E), Sichuan Province, 23 Aug. 1961, coll. JIN Rui Hua. Paratype (Figs. 7-12) 1 ♂(NKU), Maerkang, Sichuan Province, 2 600-2 800 m, 11 Aug. 1963, coll. ZHENG Le Yi.



Figs 1-7. *Fisulatus ratilineus* Shang et Zhang, sp. nov. (holotype). 1. Male adult in dorsal view. 2. Left side of pygofer in lateral view. 3. Valve in ventral view. 4. Subgenital plate in dorsal view. 5. Aedeagus in lateral view. 6. Aedeagus in ventral view. 7. Apex of aedeagus in ventral view.

Etymology. This species is named for its rectate (straight) aedeagal shaft in lateral view.

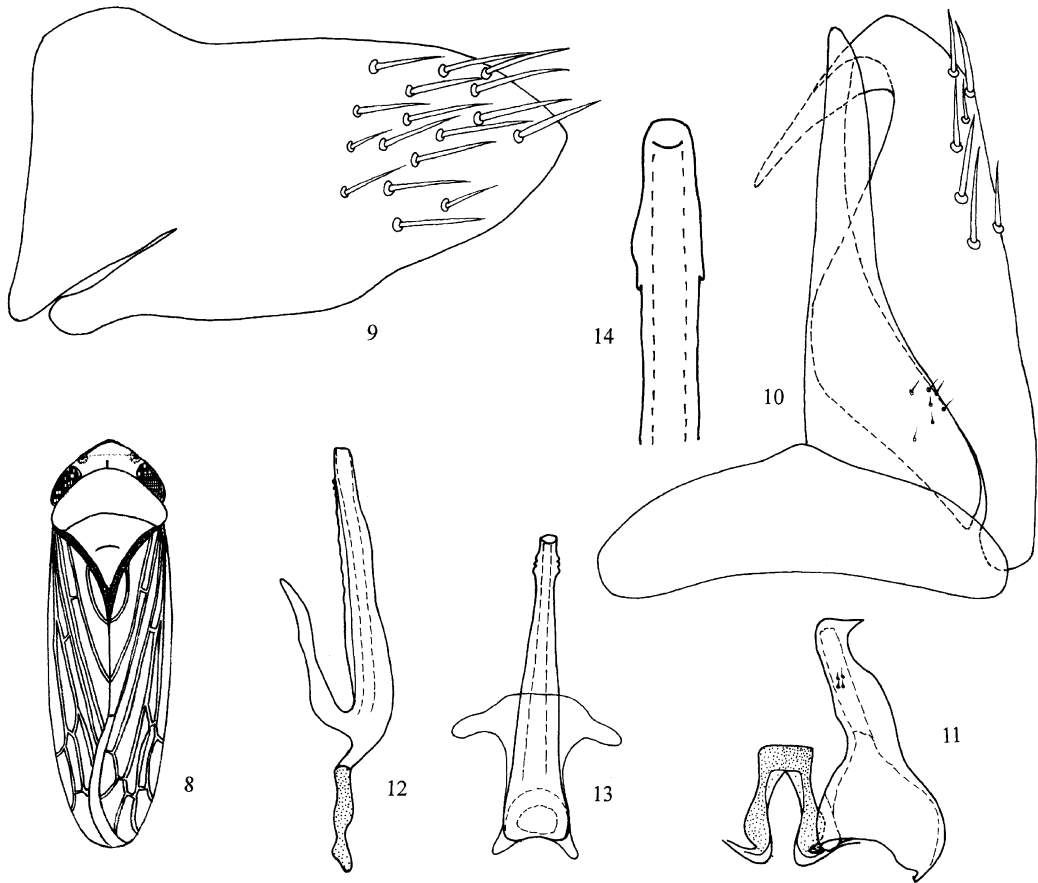
Remarks. This new species is allied to *F. luteolus* but differs from the latter in: 1) pygofer side with one rather than two processes; 2) aedeagus with shaft not curved dorsally; 3) aedeagal shaft with dorsal margin on each side with a basal flange and subapically with a narrow triangular-shaped flange.

In addition, the holotypes style and connective

were lost during the preparation of its genitalia. However, these structures are figured here for another specimen (paratype). The aedeagus of this specimen shows slight differences (Figs. 5-7, 12-14) but this may be due to it being a poorly developed specimen, e. g. the aedeagal flanges and basal apodeme are similar but more weakly developed than in the holotype and the connective is weakly sclerotised. More material is needed to ascertain the status of these differences.

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Figs 8-14. *Fistulatus ratilineus* Shang et Zhang, sp. nov. (paratype). 8. Male adult in dorsal view. 9. Left side of pygofer in lateral view. 10. Valve, subgenital plate and pygofer in ventral view. 11. Style and connective in dorsal view. 12. Aedeagus and connective in lateral view. 13. Aedeagus in ventral view. 14. Apex of aedeagus in ventral view.

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管茎叶蝉属分类并记一新种 (半翅目, 缘脊叶蝉亚科, 脊翅叶蝉族)

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摘要 记述中国脊翅叶蝉管茎叶蝉属 1 新种 *Fistulatus rectilineus* Shang & Zhang, sp. nov. 并给出本属所有种的检索表, 新种模式标本分别保存在中国农业大学和南开大学。

新种与 *Fistulatus luteolus* Cen & Cai, 2002 的区别为: 1) 尾节侧瓣具 1 个突起而不是 2 个; 2) 阳茎干不背向弯曲; 3) 阳茎干背缘两侧各具一凸缘, 近端部有一窄三角形凸缘。

关键词 半翅目, 叶蝉科, 管茎叶蝉属, 新种, 中国。
中图分类号 Q969.35